

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : II NAH Group Art Unit: 3677
Appln. No. : 10/720,337 Examiner: Michael J. Kyle
Filed : November 25, 2003 Confirmation No.: 3926
For : INSERT - NUT OF A CARRIER IN A CAR

AMENDED APPEAL BRIEF UNDER 37 C.F.R. §41.37

Commissioner for Patents
U.S. Patent and Trademark Office
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Randolph Building
401 Dulany Street
Alexandria, VA 22314

Sir:

This amended appeal brief is responsive to the Notification of Non-Compliant Appeal Brief dated September 20, 2006. The Notification indicated that the Appeal Brief Appellant filed on June 5, 2006 was defective because it did not include an Evidence Appendix or a Related Proceedings Appendix. Appellant respectfully submits that the present amended appeal brief includes an Evidence Appendix and a Related Proceedings Appendix, and complies with all of the provisions of 37 CFR 41.37.

This appeal is from the Examiner's rejection of claims 1-24, as set forth in the Final Official Action of January 3, 2006.

(1) REAL PARTY IN INTEREST

The real party in interest is Hyundai Mobis Co., Ltd., as established by an assignment recorded in the U.S. Patent and Trademark Office on November 25, 2003, at Reel 014746 and Frame 0302.

(2) RELATED APPEALS AND INTERFERENCES

No related appeals and/or interferences are pending.

(3) STATUS OF THE CLAIMS

Claims 1-24 stand finally rejected. The rejection of each of claims 1-24 is hereby appealed. A copy of claims 1-24 is attached as an Appendix to this brief.

(4) STATUS OF THE AMENDMENTS

No amendments have been filed subsequent to the Final Official Action of January 3, 2006.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Initially, Appellant notes that the following descriptions are made with respect to the independent claims and include references to particular parts of the specification. As such, the following are merely exemplary and are not a surrender of other aspects of the present invention that are also enabled by the present specification and that are directed to equivalent structures or methods.

The present invention relates to an insert-nut of a carrier in a car. (Specification, page 1, lines 10-12).

Independent claim 1 requires an insert-nut for use with a carrier of a car, the insert-nut comprising a polygonal shape defined by a plurality of sidewalls and at least one circumferentially extending groove that is provided along a longitudinal dimension of the insert-nut, the plurality of sidewalls of the insert-nut being configured to provide a plurality of gaps between the sidewalls of the insert-nut and a surface of an installation hole of the carrier, the plurality of gaps extending circumferentially about a periphery of the insert-nut and along an entire length of the insert-nut, whereby plastic is injectable into the plurality of gaps and into the at least one groove to secure the insert-nut to the carrier.

In this regard, exemplary embodiments of the present specification are shown in Figures 3-5, and disclosed at page 4, line 17 – page 5, line 8 of Appellant's specification. The exemplary embodiments disclose an insert-nut (100) for use with a carrier (10) of a car, the insert-nut comprising a polygonal shape defined by a plurality of sidewalls and at least one circumferentially extending groove (102, 112) that is provided along a longitudinal dimension of the insert-nut (page 5, lines 8-19, Figure 3), the plurality of sidewalls of the insert-nut being configured to provide a plurality of gaps between the sidewalls of the insert-nut and a surface of an installation hole (16) of the carrier, the plurality of gaps extending circumferentially about a periphery of the insert-nut and along an entire length of the insert-nut (Figure 4), whereby plastic is injectable into the plurality of gaps and into the at least one groove to secure the insert-nut to the carrier (page 5, lines 4-7, page 6, lines 7-17).

Independent claim 8 requires a method for securing an insert-nut within an insert hole, said method comprising: mounting the insert-nut into the insert hole, wherein the insert-nut comprises a polygonal shape defined by a plurality of sidewalls of the insert-nut with at least one circumferentially extending groove provided along a longitudinal dimension of the insert-nut, a plurality of gaps being provided between the sidewalls of the insert-nut and a surface of the insert hole, the plurality of gaps extending circumferentially about a periphery of the insert-nut and along an entire length of the insert-nut; and injecting plastic into the plurality of gaps and into the at least one groove of the insert-nut.

In this regard, exemplary embodiments of the present specification are shown in Figures 3-5, and disclosed at page 4, line 17 – page 5, line 8. The exemplary embodiments disclose a method for securing an insert-nut (100) within an insert hole (16), said method comprising: mounting the insert-nut into the insert hole (page 5, lines 4-7), wherein the insert-nut comprises a polygonal shape defined by a plurality of sidewalls of the insert-nut with at least one circumferentially extending groove (102, 112) provided along a longitudinal dimension of the insert-nut (page 5, lines 8-19, Figure 3), a plurality of gaps being provided between the sidewalls of the insert-nut and a surface of the insert hole, the plurality of gaps extending circumferentially about a periphery of the insert-nut and along an entire length of the insert-nut (Figure 4); and injecting plastic into the plurality of gaps and into the at least one groove of the insert-nut (page 5, lines 4-7).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether Claims 1-24 are properly rejected under 35 U.S.C. §103(a) over Gauron (U.S. Patent No. 4,902,180) in view of Kann (U.S. Patent No. 2,415,695).

(7) ARGUMENT

The Rejection of Claims 1-24 under 35 U.S.C. §103(a) is improper, and the Decision to Reject Claims 1-24 on this Ground Should be Reversed.

In the Final Official Action of January 3, 2006, the Examiner rejected claims 1-24 under 35 U.S.C. §103(a) over Gauron (U.S. Patent No. 4,902,180) in view of Kann (U.S. Patent No. 2,415,695). Appellant respectfully submits that the rejection of claims 1-24 under 35 U.S.C. §103(a) over Gauron in view of Kann is improper and should be reversed.

Claims 1 and 8

Appellant respectfully submits that there is no reason, suggestion, or motivation to combine the teachings of Gauron and Kann in the manner asserted by the Examiner, and thus submit that Gauron and Kann do not disclose or suggest the insert nut recited in Appellant's claim 1, nor the method for securing an insert-nut within an insert hole recited in Appellant's claim 8.

Gauron is directed towards an inset panel fastener element 70 which has a pair of end portions 72, 74 interconnected by a stem 76, and flow control disks which are provided on the stem 76. See Figure 13 and col. 5, lines 57-66. In the embodiments shown in Figures 13-16, the flow control disks comprises circular ribs 80, 82. See

Figures 13-16 and col. 5, lines 66-68. In the embodiment shown in Figures 20 and 23, the fastener element includes a continuous helical rib 106, the turns of which form the function of disks 80, 82. See Figure 20 and col. 7, lines 1-7 of Gauron.

Appellant submits that Gauron's inset panel fastener element does not have a polygonal shape defined by a plurality of sidewalls, as recited in Appellant's claims 1 and 8. At page 2, paragraph 2 of the Final Official Action, the Examiner acknowledges that Gauron's inset panel fastener element (insert nut) does not have a polygonal shape.

However, at page 2, paragraph 3 of the Final Official Action, the Examiner asserts that Kann teaches an insert nut having a polygonal shape, and asserts that it would have been obvious to modify Gauron' inset panel fastener element, as taught by Kann, to have a polygonal shape. Appellant respectfully disagrees.

Kann is directed towards a rivet member, such as a clinch nut, bushing, bearing or hub, which is secured to a support by a riveting operation. See col. 1, lines 1-12 of Kann. The main object of Kann's invention is to provide a rivet member which, when fastened to a support, is secure against undesired turning. See col. 1, lines 48-51 of Kann.

The clinch nut shown in Kann's Figure 1 includes an extending portion 11 which has a cross section in the form of a hexagon. See Figure 1 and col. 2, line 46 – col. 3, line 6 of Kann. The clinch nut is secured to a plate 14 by inserting the extending portion 11 in a round hole in the plate, and expanding and riveting over the end of the extending portion 11. In this regard, a tool such as a punch 18 is inserted in a bore 12 of the clinch nut to enlarge its end and thereby force the edges of the extending portion 11 into

the material of the plate, and rivet over the end to form a bead or head. See col. 3, lines 7-17 of Kann. Kann discloses, at col. 3, lines 27-30, that by using a hexagonal section, the rivet member (clinch nut) is firmly held in the plate and secure against turning.

At page 2, paragraph 3 of the Final Official Action, the Examiner asserts that, in view of Kann's teaching, one of ordinary skill in the art would have been motivated to modify Gauron's inset panel fastener element in order to secure it against turning. Appellant respectfully disagrees.

Gauron's inset panel fastener element is configured to be inserted into a panel 12 through a skin opening in the panel. See col. 1, lines 16-25 and 41-54, and Figures 17-19 of Gauron. Appellant submits that Gauron's inset panel fastener element is not riveted to the panel 12. Rather, Gauron's inset panel fastener element is held in the panel 12 by a potting resin (such as epoxy) which is filled in a cavity of the panel 12 in which the fastener element is inserted. See col. 2, lines 22-38. Appellant submits that Gauron's inset panel fastener element is, in fact, structurally incapable of being riveted to the panel 12, since the fastener element is set into the cavity such that the end disk 72 of the fastener element is substantially flush with the skin of the panel. See col. 2, lines 8-9 and Figures 17-19 of Gauron.

Since Gauron's inset panel fastener element is not riveted to the panel 12, Appellant submits that the end disk 72 of Gauron's inset panel fastener element does not extend into the material of the panel 12 so as to form a wedge-like joint which serves to hold the fastener element to the panel and prevent turning, in the manner of Kann's clinch nut, as disclosed at col. 3, lines 31-38 of Kann.

Appellant respectfully submits that since Gauron's inset panel fastener element is not riveted to the panel 12, there is no motivation to provide it with a polygonal shape, as it is submitted that providing it with a polygonal shape will not better secure it against turning.

Thus, Appellant respectfully submits that the combination of Gauron and Kann fails to disclose or suggest an insert-nut which includes a polygonal shape defined by a plurality of sidewalls, as recited in Appellant's independent claim 1.

For the same reasons, Appellant submits that the combination of Gauron and Kann fails to disclose or suggest a method of securing an insert-nut within an insert hole which includes mounting an insert-nut having a polygonal shape defined by a plurality of sidewalls into an insert hole, as recited in Appellant's independent claim 8.

Claims 2 and 10

Appellant respectively submits that claims 2 and 10 are allowable at least for the reason that they depend directly from claims 1 and 8, respectively.

Appellant respectively submits that claims 2 and 10 are also allowable for the additional reason that the combination of Gauron and Kann fails to disclose or suggest an insert-nut having the configuration specified in respective independent claims 1 and 8, in which the insert-nut has a shape of hexagon, as recited in claims 2 and 10.

Appellant respectfully submits that Gauron's fastener element 70 does not have a hexagonal shape. Rather, Appellant submits that the end portions 72, 74 and the ribs 80, 82 are disk-shaped, or circular. See Figures 13, 14, 19 and 20.

As discussed above, the Examiner acknowledges that Gauron's fastener element does not have a polygonal or hexagonal shape, but asserts that Kann teaches this feature.

As discussed above, Gauron's fastener element is not riveted to a panel. Accordingly, Appellant submits that there is no reason, suggestion, or motivation to combine the teachings of Gauron and Kann in the manner suggested by the Examiner to arrive at a fastener element that has the shape of a hexagon.

Claims 3 and 9

Appellant respectfully submits that claims 3 and 9 are allowable at least for the reason that they depend directly from claims 1 and 8, respectively.

Appellant respectfully submits that claims 3 and 9 are also allowable for the additional reason that the combination of Gauron and Kann suggested by the Examiner fails to disclose or suggest an insert-nut having a shape of a pentagon, as recited in claims 3 and 9.

Appellant respectfully submits that Gauron's fastener element 70 does not have a pentagonal shape. Rather, Appellant submits that Figures 13, 14, 19 and 20 clearly disclose that the end portions 72, 74 and the ribs 80, 82 are disk-shaped, or circular.

As discussed above, the Examiner acknowledges that Gauron's fastener element does not have a polygonal or pentagonal shape, but asserts that Kann teaches this feature.

As discussed above, Gauron's fastener element is not riveted to a panel. Appellant thus submits that there is no reason, suggestion, or motivation to modify the

fastener element of Gauron to have the shape of a pentagon in view of the teaching of Kann.

Claims 6 and 13

Appellant respectively submits that claims 6 and 13 are allowable at least for the reason that they depend directly from claims 1 and 8, respectively.

Appellant respectively submits that claims 6 and 13 are also allowable for the additional reason that the combination of Gauron and Kann fails to disclose or suggest an insert-nut which includes a circumferentially extending groove that has a polygonal shape, as recited in claims 6 and 13.

The fastener element 70 illustrated in Gauron's Figures 13-16 includes flow passageways which are girth grooves 84, 86 and 88. See col. 5, line 57 – col. 6, line 1. The fastener element 104 illustrated in Gauron's Figure 20 includes a helical groove 108. See col. 7, lines 1-7.

At page 3, paragraph 6 of the Final Official Action, the Examiner acknowledges that none of Gauron's disclosed fastener elements include a groove having a polygonal shape. The Examiner also acknowledges that Kann does not disclose a groove having a polygonal shape. However, the Examiner asserts that Kann discloses that polygonal shapes may be used to secure against turning within a hole, and as a result, it would have been obvious to modify Gauron's grooves to be in the shape of a polygon in order to provide resistance to torque as the fastener element is fastened. Appellant respectfully disagrees.

Appellant respectfully submits that Kann merely teaches that the hexagonal shape of the extended portion 11 of his disclosed clinch nut, which is riveted over plate 14, causes the clinch nut to be secure against turning. See col. 3, lines 7-30 of Kann. Appellant submits that neither Gauron nor Kann suggest that a groove having a polygonal shape, which is not riveted over a plate or panel, provides resistance to torque, as the Examiner asserts. Thus, Appellant respectfully submits that neither Gauron nor Kann, in the combination suggested by the Examiner, provide any reason, suggestion, or motivation for modifying Gauron's grooves to be in the shape of a polygon.

Claims 21-24

Appellant respectfully submits that claims 21-24 are allowable at least for the reason that they depend directly from claims 1 and 8. Appellant respectfully submits that claims 21-24 are also allowable for the additional reason that the combination of Gauron and Kann, in the manner suggested by the Examiner, fails to disclose or even suggest an insert-nut which includes a polygonal shape which is substantially defined along the entire length of the insert-nut, as recited in claims 21 and 23, or which is uniformly sized throughout the length of the insert-nut, as recited in claims 22 and 24.

At page 3, paragraph 10 of the Final Official Action, the Examiner asserts that the combination of Gauron and Kann teaches a polygonal shape defined along, and uniformly sized through the entire length of an insert nut. In this regard, the Examiner asserts that Gauron shows a uniform size shape along the length of the insert nut

(which Appellant notes is specifically referred to in the reference as a fastener element), and that Kann teaches a polygonal shape.

Kann's clinch nut includes the above-noted extended portion 11, as well as a cylindrical body portion 10 which has a wider diameter than that of the extended portion 11. See Figure 1 of Kann. As shown in Figures 2, 4 and 5, when the clinch nut is attached to a plate 14, only the extended portion 11 extends through a hole in the plate 14. Appellant respectfully submits that only the extended portion 11 has a polygonal shape since only the extended portion 11 is riveted over the plate 14. Appellant respectfully submits that a review of the reference clearly discloses that the cylindrical body portion 10 has a circular shape, and not the polygonal shape suggested by the Examiner.

Since only the extended portion 11 of Kann's clinch nut has a polygonal shape, Appellant respectfully submits that one of ordinary skill in the art would not be motivated by the teachings of Kann to modify Gauron's fastener element (as suggested by the Examiner), such that a polygonal shape is substantially defined along the entire length of the fastener element, as recited in claims 21 and 23, or is uniformly sized throughout the length of the fastener element, as recited in claims 22 and 24. Even if one were to assume, *arguendo*, that one of ordinary skill in the art would be motivated to combine the teachings of Gauron and Kann (and Appellant submits one would not be so motivated), Appellant respectfully submits that this would result in only the end portion 72 of Gauron's fastener element being modified to have a polygonal shape, and thus would not result in a polygonal shape being substantially defined along the entire length

of the fastener element, or being uniformly sized throughout the length of the fastener element, as specified in Appellant's claims 21-24.

Claims 4, 5, 7, 11, 12 and 14-20

Appellant respectfully submits that claims 4, 5, 7, 11, 12 and 14-20 are allowable at least for the reason that they depend directly from claims 1 and 8.

(9) CONCLUSION

Accordingly, for each and all of the reasons noted above, Appellant submits that the rejection of claims 1-24 under 35 U.S.C. §103(a) is inappropriate and unsupported by the proposed combination of Gauron and Kann. Therefore, Appellant respectfully requests that the decision of the Examiner to reject claims 1-24 under 35 U.S.C. §103(a) be reversed, and that the application be returned to the Examiner for withdrawal of the rejections, and an early allowance of claims 1-24 on appeal.

Appellant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so. Appellant has explained the combination of features recited in claims 1-24 and has shown how these features are not disclosed, suggested or rendered obvious by the combination of references applied in the Final Official Action dated January 3, 2006. Accordingly, for at least the reasons set forth herein, Appellant respectfully requests reconsideration and withdrawal of each of the rejections, as well as an indication of the allowability of each of the claims now pending in due course.

Should the Examiner have any questions, please contact the undersigned at the telephone number provided below.

Respectfully submitted,
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CLAIMS APPENDIX

1. (Previously Presented) An insert-nut for use with a carrier of a car, the insert-nut comprising a polygonal shape defined by a plurality of sidewalls and at least one circumferentially extending groove that is provided along a longitudinal dimension of the insert-nut, the plurality of sidewalls of the insert-nut being configured to provide a plurality of gaps between the sidewalls of the insert-nut and a surface of an installation hole of the carrier, the plurality of gaps extending circumferentially about a periphery of the insert-nut and along an entire length of the insert-nut, whereby plastic is injectable into the plurality of gaps and into the at least one groove to secure the insert-nut to the carrier.

2. (Previously Presented) The insert-nut according to claim 1, wherein the polygonal shape comprises a hexagon.

3. (Previously Presented) The insert-nut according to claim 1, wherein the polygonal shape comprises a pentagon.

4. (Previously Presented) The insert-nut according to claim 1, wherein the longitudinal dimension of the insert-nut corresponds to a thickness of the carrier.

5. (Previously Presented) The insert-nut according to claim 1, wherein a shape of the at least one groove is circular.

6. (Previously Presented) The insert-nut according to claim 1, wherein a shape of the at least one groove is polygonal.

7. (Previously Presented) The insert-nut according to claim 1, wherein the at least one groove comprises a plurality of grooves spaced along the longitudinal dimension of the insert-nut.

8. (Previously Presented) A method for securing an insert-nut within an insert hole, said method comprising:

mounting the insert-nut into the insert hole, wherein the insert-nut comprises a polygonal shape defined by a plurality of sidewalls of the insert-nut with at least one circumferentially extending groove provided along a longitudinal dimension of the insert-nut, a plurality of gaps being provided between the sidewalls of the insert-nut and a surface of the insert hole, the plurality of gaps extending circumferentially about a periphery of the insert-nut and along an entire length of the insert-nut; and

injecting plastic into the plurality of gaps and into the at least one groove of the insert-nut.

9. (Previously Presented) The method according to claim 8, wherein the polygonal shape comprises a pentagon.

10. (Previously Presented) The method according to claim 8, wherein the polygonal shape comprises a hexagon.

11. (Previously Presented) The method according to claim 8, wherein a longitudinal dimension of the insert-nut is formed to correspond to a thickness of a carrier within which the insert-hole is defined.

12. (Previously Presented) The method according to claim 8, wherein a shape of the at least one groove is circular.

13. (Previously Presented) The method according to claim 8, wherein a shape of the at least one groove is polygonal.

14. (Previously Presented) The method according to claim 8, wherein the at least one groove comprises a plurality of grooves spaced along the longitudinal dimension of the insert-nut.

15. (Previously Presented) The insert-nut according to claim 1, wherein each gap of the plurality of gaps is of uniform size and provides an inlet port for plastic injection.

16. (Previously Presented) The insert-nut according to claim 1, wherein the polygonal shape is sized to be substantially inscribed in the installation hole of the carrier.

17. (Previously Presented) The insert-nut according to claim 1, wherein each gap of the plurality of gaps is defined by adjacent vertices of the polygonal shape and a segment of the installation hole between the adjacent vertices.

18. (Previously Presented) The method according to claim 8, wherein each gap of the plurality of gaps is of uniform size and provides an inlet port for plastic injection.

19. (Previously Presented) The method according to claim 8, wherein the polygonal shape is sized to be substantially inscribed in the installation hole of the carrier.

20. (Previously Presented) The method according to claim 8, wherein each gap of the plurality of gaps is defined by adjacent vertices of the polygonal shape and a segment of the installation hole between the adjacent vertices.

21. (Previously Presented) The insert-nut according to claim 1, wherein the polygonal shape is substantially defined along the entire length of the insert-nut.

22. (Previously Presented) The insert-nut according to claim 21, wherein the polygonal shape is uniformly sized throughout the length of the insert-nut.

23. (Previously Presented) The method according to claim 8, wherein the polygonal shape is substantially defined along the entire length of the insert-nut.

24. (Previously Presented) The method according to claim 23, wherein the polygonal shape is uniformly sized throughout the length of the insert-nut.

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EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None